

Name: _____

Date: _____

PCW__09__22 Coordinate transformations v10

Question 1

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 8 \cdot (f[7(x - 9)] - 4)$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a}{7} + 9, 8(b - 4) \right)$$

Question 2

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f[7(x + 6)] - 9}{3}$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a}{7} - 6, \frac{b - 9}{3} \right)$$

Question 3

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 2 \cdot f[6x + 5] + 3$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a - 5}{6}, 2b + 3 \right)$$

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Question 4

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f[6x - 9]}{3} + 8$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a+9}{6}, \frac{b}{3} + 8 \right)$$

Question 5

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f\left[\frac{x}{2} - 3\right] + 7}{8}$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(2(a+3), \frac{b+7}{8} \right)$$

Question 6

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 2 \cdot \left(f\left[\frac{x}{7} + 5\right] + 6 \right)$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow (7(a-5), 2(b+6))$$